WHAT IS CLAIMED IS:

1. A controller for use with a current-controlled frequency-modulated power factor corrector having a power switch therein, comprising:

a sensing circuit configured to detect a sense current representative of an input current to said power factor corrector; and

a frequency modulation circuit, coupled to said sensing circuit, configured to provide a signal that causes at least one of:

an increase of a switching frequency of said power switch when said input current increases, and

a decrease of said switching frequency of said power switch when said input current decreases.

2. The controller as recited in Claim 1 wherein said frequency modulation circuit is configured to cause an increase of said switching frequency of said power switch up to a maximum frequency.

3. The controller as recited in Claim 1 wherein said frequency modulation circuit is configured to cause a decrease of said switching frequency of said power switch down to a minimum frequency.

4. The controller as recited in Claim 1 further comprising a pulse width modulation control circuit, coupled to said frequency modulation circuit, configured to supply a drive signal to said power switch, a frequency of said drive signal being modulated as a function of said signal from said frequency modulation circuit.

5. The controller as recited in Claim 1 wherein said sensing circuit is configured to detect said sense current passing through a sense resistor associated with said power factor corrector.

6. The controller as recited in Claim 1 wherein said sensing circuit comprises an amplifier.

7. The controller as recited in Claim 1 wherein said frequency modulation circuit comprises a filter, a plurality of resistors, a diode and a current-controlled device.

8. A method of regulating a current-controlled frequency-modulated power factor corrector having a power switch, comprising:

detecting a sense current representative of an input current to said power factor corrector; and

providing a signal that causes at least one of:

an increase of a switching frequency of said power switch when said input current increases, and

a decrease of said switching frequency of said power switch when said input current decreases.

9. The method as recited in Claim 8 wherein said providing causes an increase of said switching frequency of said power switch up to a maximum frequency.

10. The method as recited in Claim 8 wherein said providing causes a decrease of said switching frequency of said power switch down to a minimum frequency.

11. The method as recited in Claim 8 further comprising supplying a drive signal to said power switch, a frequency of said drive signal being modulated as a function of said signal according to said act of providing.

12. The method as recited in Claim 8 wherein said detecting detects said sense current passing through a sense resistor associated with said power factor corrector.

13. The method as recited in Claim 8 wherein said detecting is performed by a sensing circuit including an amplifier.

14. The method as recited in Claim 8 wherein said providing is performed by a frequency modulation circuit comprising a filter, a plurality of resistors, a diode and a current-controlled device.

15. A current-controlled frequency-modulated power factor corrector having an input that receives an input current at an input voltage and providing an output voltage at an output thereof, comprising:

an electromagnetic interference (EMI) filter, coupled to said input, that receives said input current;

a rectifier, coupled to said EMI filter, that provides a rectified value of said input current and said input voltage;

a converter, coupled to said rectifier, that includes a power switch; and

a controller that regulates said output voltage and modulates a switching frequency of said power switch, comprising:

a sensing circuit that detects a sense current representative of said input current to said power factor corrector,

a frequency modulation circuit, coupled to said sensing circuit, that provides a signal that causes at least one of:

an increase of said switching frequency of said power switch when said input current increases, and

a decrease of said switching frequency of said power switch when said input current decreases, and

a pulse width modulation control circuit, coupled to said sensing circuit and said frequency modulation circuit, that supplies a drive signal to said power switch, a frequency of

said drive signal being modulated as a function of said sense current and said signal from said frequency modulation circuit.

16. The power factor corrector as recited in Claim 15 wherein said frequency modulation circuit causes an increase of said switching frequency of said power switch up to a maximum frequency.

17 The power factor corrector as recited in Claim 15 herein said frequency modulation circuit causes a decrease of said switching frequency of said power switch down to a minimum frequency.

18. The power factor corrector as recited in Claim 15 wherein said sensing circuit detects said sense current passing through a sense resistor of said converter and comprises an amplifier.

19. The power factor corrector as recited in Claim 15 wherein said frequency modulation circuit comprises a filter, a plurality of resistors, a diode and a current-controlled device.

20. The power factor corrector as recited in Claim 15 wherein said converter employs a boost converter topology.